WO 2004/096428 PCT/US2004/012390

Claims:

5

15

25

30

An apparatus for distributing solid particles into a tube, comprising:
a center member; and

a plurality of damper members connected to the center member, wherein the plurality of damper members is arranged on the center member to provide substantially circumferential coverage along a longitudinal length of the tube and the damper member itself lacks substantial coverage of a cross section of the tube.

10 2. A method for distributing solid particles into a tube, comprising:

positioning a loading tool in an interior of the tube, the loading tool having a center member and a plurality of damper members connected to the center member, wherein the plurality of damper members is arranged on the center member to provide substantially circumferential coverage along a longitudinal length of the tube and the damper member itself lacks substantial coverage of a cross section of the tube;

filling the tube with the solid particles, wherein the solid particles contact the plurality of damper members; and

removing the loading tool from the tube as the solid particles fill the tube.

20 3. A method for distributing solid particles into a tube, comprising:

positioning a loading tool in an interior of the tube, the loading tool having a center member and a plurality of damper members connected to the center member, wherein the plurality of damper members is arranged on the center member to provide substantially circumferential coverage along a longitudinal length of the tube and the damper member itself lacks substantial coverage of a cross section of the tube;

filling the tube with the solid particles, wherein the solid particles contact the plurality of damper members;

removing the loading tool from the tube as the solid particles fill the tube; and utilizing a sensor to communicate the position of a second portion of the center member to a first portion of the center member.

WO 2004/096428 PCT/US2004/012390

4. The method for distributing solid particles into a tube of claim 3, wherein the second portion of the center member is located at a lowest extremity of the center member.

5 5. The method for distributing solid particles into a tube of claim 3, wherein the first portion of the center member is located at an upper portion of the center member.